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<110> E.I. du Pont de Nemours and Company

<120> SPFl-Related Transcription Factors

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<151> 2000-01-04

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<170> Microsoft Office 97

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<211> 512

<212> DNA

<213> Zea mays

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<222> (167)

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      20             25             30

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Leu Leu Glu Arg Ser Leu Asp Gly Gln Ile Thr Glu Val Val Tyr Lys
 35 40 45
 Gly His His Asn His Pro Lys Pro Gln Pro Asn Arg Arg Leu Ala Ala
 50 55 60
 Gly Ala Val Pro Ser Ser Gln Ala Glu Glu Arg Tyr Asp Gly Val Ala
 65 70 75 80
 Pro Ile Glu Asp Lys Pro Ser Asn Ile Tyr Ser Asn Leu Cys Asn Gln
 85 90 95
 Ala His Ser Ala Gly Met Val Asp Asn Val Pro Gly Pro Ala Ser Asp
 100 105 110
 Asp Asp Val Asp Ala Gly Gly Gly Arg Pro Xaa Pro Gly Gly Met Thr
 115 120 125
 Xaa Met Met Met Met Thr Xaa Xaa Ser Lys Thr Gln Gly Lys Trp Asn
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 Leu Pro Gly Xaa Xaa Cys Xaa Ala Leu Xaa Gly Val Asn Gln Ile Pro
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 Glu Pro Xaa Xaa Pro Phe Xaa Lys Leu Phe
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 <212> DNA
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<210> 4

<211> 150

<212> PRT

<213> Zea mays

<400> 4

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Met Ala Ser Ser Thr Gly Ser Leu Glu His Gly Gly Phe Thr Phe Thr
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Pro Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Ala Gly
      20              25              30

Asp Met Leu Gly Ala Gly Ala Asp Gln Glu Arg Ser Ser Pro Arg Gly
      35              40              45

Leu Phe His Arg Gly Ala Arg Gly Val Pro Lys Phe Lys Ser Ala Gln
      50              55              60

Pro Pro Ser Leu Pro Ile Ser Pro Pro Pro Met Ser Pro Ser Ser Tyr
      65              70              75              80

Phe Ala Ile Pro Pro Gly Leu Ser Pro Ala Glu Leu Leu Asp Ser Pro
      85              90              95

Val Leu Leu His Ser Ser Ser Asn Ile Leu Ala Ser Pro Thr Thr Gly
      100             105             110

Ala Ile Pro Ala Gln Arg Phe Asp Trp Lys Lys Ala Ala Asp Leu Ile
      115             120             125

Ala Ser Gln Ser Gln Gln Asp Gly Asp Ser Arg Ala Ala Ala Ala Gly
      130             135             140

Phe Asp Asp Phe Ser Phe
145             150

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<210> 5

<211> 1961

<212> DNA

<213> *Oryza sativa*

<400> 5

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tgattcggtg caggccactg ccacgtgggc cacaccgaa acagtacacg cgtatacacc 1860
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<210> 6

<211> 488

<212> PRT

<213> *Oryza sativa*

<400> 6

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Met Ala Ser Ser Thr Gly Gly Leu Asp His Gly Phe Thr Phe Thr Pro
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Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Gly Gly Gly
          20          25          30

Asp Leu Leu Gly Ala Gly Gly Glu Glu Arg Ser Pro Arg Gly Phe Ser
          35          40          45

Arg Gly Gly Ala Arg Val Gly Gly Gly Val Pro Lys Phe Lys Ser Ala
          50          55          60

Gln Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Val Ser Pro Ser Ser
          65          70          75          80

```

6

WO 01/49840

PCT/US00/35310

Thr Tyr Glu Gly Lys His Asn His Asp Val Pro Val Arg Pro Arg Arg
405 410 415

Arg Arg Arg Thr Arg Pro Gly Ala Gly Val Ala Tyr Gly Trp Gly Arg
420 425 430

Ser Gly Pro Thr Asp Val Ala Ala Ala Gln Gln Gly Pro Tyr Thr Leu
435 440 445

Glu Met Leu Pro Asn Pro Ala Gly Leu Tyr Gly Gly Tyr Gly Ala Gly
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Ala Gly Gly Ala Ala Phe Pro Arg Thr Lys Asp Glu Arg Arg Asp Asp
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Leu Phe Val Glu Ser Leu Leu Cys
485

<210> 7
<211> 2086
<212> DNA
<213> Oryza sativa

<400> 7

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 <211> 487
 <212> PRT
 <213> Oryza sativa

<400> 8
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 35 40 45
 Arg Gly Gly Ala Arg Val Gly Gly Gly Val Pro Lys Phe Lys Ser Ala
 50 55 60
 Gln Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Val Ser Pro Ser Ser
 65 70 75 80
 Tyr Phe Ala Ile Pro Pro Gly Leu Ser Pro Thr Glu Leu Leu Asp Ser
 85 90 95
 Pro Val Leu Leu Ser Ser Ser His Ile Leu Ala Ser Pro Thr Thr Gly
 100 105 110
 Ala Ile Pro Ala Gln Arg Tyr Asp Trp Lys Ala Ser Ala Asp Leu Ile
 115 120 125
 Ala Ser Gln Gln Asp Asp Ser Arg Gly Asp Phe Ser Phe His Thr Asn
 130 135 140
 Ser Asp Ala Met Ala Ala Gln Pro Ala Ser Phe Pro Ser Phe Lys Glu
 145 150 155 160
 Gln Glu Gln Gln Val Val Glu Ser Ser Lys Asn Gly Ala Ala Ala Ala
 165 170 175
 Ser Ser Asn Lys Ser Gly Gly Gly Gly Asn Asn Lys Leu Glu Asp Gly
 180 185 190
 Tyr Asn Trp Arg Lys Tyr Gly Gln Lys Gln Val Lys Gly Ser Glu Asn
 195 200 205
 Pro Arg Ser Tyr Tyr Lys Cys Thr Tyr Asn Gly Cys Ser Met Lys Lys
 210 215 220
 Lys Val Glu Arg Ser Leu Ala Asp Gly Arg Ile Thr Gln Ile Val Tyr
 225 230 235 240
 Lys Gly Ala His Asn His Pro Lys Pro Leu Ser Thr Arg Arg Asn Ala
 245 250 255
 Ser Ser Cys Ala Thr Ala Ala Ala Cys Ala Asp Asp Leu Ala Ala Pro
 260 265 270

Gly Ala Gly Ala Asp Gln Tyr Ser Ala Ala Thr Pro Glu Asn Ser Ser
 275 280 285
 Val Thr Phe Gly Asp Asp Glu Ala Asp Asn Ala Ser His Arg Ser Glu
 290 295 300
 Gly Asp Glu Pro Glu Ala Lys Arg Trp Lys Glu Asp Ala Asp Asn Glu
 305 310 315 320
 Gly Ser Ser Gly Gly Met Gly Gly Gly Ala Gly Gly Lys Pro Val Arg
 325 330 335
 Glu Pro Arg Leu Val Val Gln Thr Leu Ser Asp Ile Asp Ile Leu Asp
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 Asp Gly Phe Arg Trp Arg Lys Tyr Gly Gln Lys Val Val Lys Gly Asn
 355 360 365
 Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr Thr Val Gly Cys Pro Val
 370 375 380
 Arg Lys His Val Glu Arg Ala Ser His Asp Thr Arg Ala Val Ile Thr
 385 390 395 400
 Thr Tyr Glu Gly Lys His Asn His Asp Val Pro Val Gly Arg Gly Gly
 405 410 415
 Gly Gly Gly Arg Ala Pro Ala Pro Ala Pro Pro Thr Ser Gly Ala Ile
 420 425 430
 Arg Pro Ser Ala Val Ala Ala Ala Gln Gln Gly Pro Tyr Thr Leu Glu
 435 440 445
 Met Leu Pro Asn Pro Ala Gly Leu Tyr Gly Gly Tyr Gly Ala Gly Ala
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 Gly Gly Ala Ala Phe Pro Arg Thr Lys Asp Glu Arg Arg Asp Asp Leu
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 Phe Val Glu Ser Leu Leu Cys
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<210> 9

<211> 1928

<212> DNA

<213> Glycine max

<400> 9

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cgaacagga	taatttttcc	tcaggaaagg	gtatgatgaa	aactgaaaac	tcttcttcca	600
tgcagagttt	ttcccctgag	attgctagtg	tccaaactaa	ccatagcaat	gggtttcaat	660

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<210> 10

<211> 575

<212> PRT

<213> Glycine max

<400> 10

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Met Ala Ser Ser Ser Gly Ser Leu Asp Thr Ser Ala Ser Ala Asn Ser
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Phe Thr Asn Phe Thr Phe Ser Thr His Pro Phe Met Thr Thr Ser Phe
      20             25             30

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```

Ser Asp Leu Leu Ala Ser Pro Leu Asp Asn Asn Lys Pro Pro Gln Gly
      35             40             45

```

```

Gly Leu Ser Glu Arg Thr Gly Ser Gly Val Pro Lys Phe Lys Ser Thr
      50             55             60

```

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Pro Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Ile Ser Pro Ser Ser
      65             70             75             80

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```

Tyr Phe Ala Ile Pro Pro Gly Leu Ser Pro Ala Glu Leu Leu Asp Ser
      85             90             95

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Pro Val Leu Leu Asn Ser Ser Asn Ile Leu Pro Ser Pro Thr Thr Gly
      100            105            110

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Ala Phe Val Ala Gln Ser Phe Asn Trp Lys Ser Ser Ser Gly Gly Asn
      115            120            125

```

```

Gln Gln Ile Val Lys Glu Glu Asp Lys Ser Phe Ser Asn Phe Ser Phe
      130            135            140

```

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Gln Thr Arg Ser Gly Pro Pro Ala Ser Ser Thr Ala Thr Tyr Gln Ser
      145            150            155            160

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Ser Asn Val Thr Val Gln Thr Gln Gln Pro Trp Ser Phe Gln Glu Ala
 165 170 175
 Thr Lys Gln Asp Asn Phe Ser Ser Gly Lys Gly Met Met Lys Thr Glu
 180 185 190
 Asn Ser Ser Ser Met Gln Ser Phe Ser Pro Glu Ile Ala Ser Val Gln
 195 200 205
 Thr Asn His Ser Asn Gly Phe Gln Ser Asp Tyr Gly Asn Tyr Pro Pro
 210 215 220
 Gln Ser Gln Thr Leu Ser Arg Arg Ser Asp Asp Gly Tyr Asn Trp Arg
 225 230 235 240
 Lys Tyr Gly Gln Lys Gln Val Lys Gly Ser Glu Asn Pro Arg Ser Tyr
 245 250 255
 Tyr Lys Cys Thr Tyr Pro Asn Cys Pro Thr Lys Lys Lys Val Glu Arg
 260 265 270
 Ser Leu Asp Gly Gln Ile Thr Glu Ile Val Tyr Lys Gly Thr His Asn
 275 280 285
 His Pro Lys Pro Gln Asn Thr Arg Arg Asn Ser Ser Asn Ser Ser Ser
 290 295 300
 Leu Ala Ile Pro His Ser Asn Ser Ile Arg Thr Glu Ile Pro Asp Gln
 305 310 315 320
 Ser Tyr Ala Thr His Gly Ser Gly Gln Met Asp Ser Ala Ala Thr Pro
 325 330 335
 Glu Asn Ser Ser Ile Ser Ile Gly Asp Asp Asp Phe Glu Gln Ser Ser
 340 345 350
 Gln Lys Cys Lys Ser Gly Gly Asp Glu Tyr Asp Glu Asp Glu Pro Asp
 355 360 365
 Ala Lys Arg Trp Lys Ile Glu Gly Glu Asn Glu Gly Met Ser Ala Pro
 370 375 380
 Gly Ser Arg Thr Val Arg Glu Pro Arg Val Val Val Gln Thr Thr Ser
 385 390 395 400
 Asp Ile Asp Ile Leu Asp Asp Gly Tyr Arg Trp Arg Lys Tyr Gly Gln
 405 410 415
 Lys Val Val Lys Gly Asn Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr
 420 425 430
 His Pro Gly Cys Pro Val Arg Lys His Val Glu Arg Ala Ser His Asp
 435 440 445
 Leu Arg Ala Val Ile Thr Thr Tyr Glu Gly Lys His Asn His Asp Val
 450 455 460
 Pro Ala Ala Arg Gly Ser Gly Ser His Ser Val Asn Arg Pro Met Pro
 465 470 475 480

Asn Asn Ala Ser Asn His Thr Asn Thr Ala Ala Thr Ser Val Arg Leu
 485 490 495
 Leu Pro Val Ile His Gln Ser Asp Asn Ser Leu Gln Asn Gln Arg Ser
 500 505 510
 Gln Ala Pro Pro Glu Gly Gln Ser Pro Phe Thr Leu Glu Met Leu Gln
 515 520 525
 Ser Pro Gly Ser Phe Gly Phe Ser Gly Phe Gly Asn Pro Met Gln Ser
 530 535 540
 Tyr Val Asn Gln Gln Gln Leu Ser Asp Asn Val Phe Ser Ser Arg Thr
 545 550 555 560
 Lys Glu Glu Pro Arg Asp Asp Met Phe Leu Glu Ser Leu Leu Cys
 565 570 575

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 <212> DNA
 <213> Triticum aestivum

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 ccggcgccgg cgcgaggtac aaggccatgt ccccgccgcy gctgccgac tcgcgcgagc 180
 cctgcctcac catccccgcc ggcttcagcc cctccgccct cctcgactcc cccgtgctcc 240
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 cactggctcc tgctatgagt gatctaataa aacacgagca ttctatgcaa aatcagagta 480
 tgaatcccag ctcatcatct agcaatatgg tgaatgaaaa cagacctccc tgttcacgcg 540
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 Asp Arg Arg Val Ala Ala Leu Ala Gly Ala Gly Ala Arg Tyr Lys Ala
 35 40 45
 Met Ser Pro Ala Arg Leu Pro Ile Ser Arg Glu Pro Cys Leu Thr Ile
 50 55 60
 Pro Ala Gly Phe Ser Pro Ser Ala Leu Leu Asp Ser Pro Val Leu Leu
 65 70 75 80
 Thr Asn Phe Lys Val Glu Pro Ser Pro Thr Thr Gly Ser Leu Ser Met
 85 90 95
 Ala Ala Ile Met His Lys Ser Ala His Pro Asp Ile Leu Pro Ser Pro
 100 105 110
 Arg Asp Lys Ser Ile Arg Ala His Glu Asp Gly Gly Ser Arg Asp Phe
 115 120 125
 Glu Phe Lys Pro His Leu Asn Ser Ser Ser Gln Ser Leu Ala Pro Ala
 130 135 140
 Met Ser Asp Leu Lys Lys His Glu His Ser Met Gln Asn Gln Ser Met
 145 150 155 160
 Asn Pro Ser Ser Ser Ser Ser Asn Met Val Asn Glu Asn Arg Pro Pro
 165 170 175
 Cys Ser Arg Glu Ser Ser Leu Thr Val Asn Val Ser Ala Pro Asn Gln
 180 185 190
 Pro Val Gly Met Val Gly Leu Thr Asp Asn Met Pro Ala Glu Val Gly
 195 200 205
 Thr Ser Glu Pro Gln Gln Met Asn Ser Ser Asp Asn Ala Met Gln Glu
 210 215 220
 Pro Gln Ser Glu Asn Val Ala Asp Lys Ser Ala Asp Asp Gly Tyr Asn
 225 230 235 240
 Trp Arg Lys Tyr Gly Gln Lys His Val Lys Gly Ser Glu Asn Pro Arg
 245 250 255
 Ser Tyr Tyr Lys Cys Thr His Pro Asn Cys Glu Val Lys Lys Leu Leu
 260 265 270

Glu Arg Ala Val Asp Gly Leu Ile Thr Glu Val Val Tyr Lys Gly Arg
 275 280 285
 His Asn His Pro Lys Pro Gln Pro Asn Arg Arg Leu Ala Gly Gly Ala
 290 295 300
 Val Pro Ser Asn Gln Gly Glu Glu Arg Tyr Asp Gly Ala Ala Ala Ala
 305 310 315 320
 Asp Asp Lys Ser Ser Asn Ala Leu Ser Asn Leu Ala Asn Pro Val Asn
 325 330 335
 Ser Pro Gly Met Val Glu Pro Val Pro Val Ser Val Ser Asp Asp Asp
 340 345 350
 Ile Asp Ala Gly Gly Gly Arg Pro Tyr Pro Gly Asp Asp Ala Thr Glu
 355 360 365
 Glu Asp Leu Glu Ser Lys Arg Arg Lys Met Glu Ser Ala Gly Ile Asp
 370 375 380
 Ala Ala Leu Met Gly Lys Pro Asn Arg Glu Pro Arg Val Val Val Gln
 385 390 395 400
 Thr Val Ser Glu Val Asp Ile Leu Asp Asp Gly Tyr Arg Trp Arg Lys
 405 410 415
 Tyr Gly Gln Lys Val Val Lys Gly Asn Pro Asn Pro Arg Ser Tyr Tyr
 420 425 430
 Lys Cys Thr Ser Thr Gly Cys Pro Val Arg Lys His Val Glu Arg Ala
 435 440 445
 Ser His Asp Pro Lys Ser Val Ile Thr Thr Tyr Glu Gly Lys His Asn
 450 455 460
 His Glu Val Pro Ala Ala Arg Asn Ala Thr His Glu Met Ser Ala Pro
 465 470 475 480
 Pro Met Lys Asn Val Val His Gln Ile Asn Ser Ser Met Pro Ser Ser
 485 490 495
 Ile Gly Gly Met Met Arg Ala Cys Glu Ala Arg Asn Phe Ser Asn Gln
 500 505 510
 Tyr Ser Gln Ala Ala Glu Thr Asp Asn Val Ser Leu Asp Leu Gly Val
 515 520 525
 Gly Ile Ser Pro Asn His Ser Asp Ala Thr Asn Gln Met Gln Ser Ser
 530 535 540
 Gly Pro Asp Gln Met Gln Tyr Gln Met Gln Ser Met Ala Ser Met Tyr
 545 550 555 560
 Gly Asn Met Arg His Pro Ser Ser Met Ala Val Pro Thr Val Gln Gly
 565 570 575
 Asn Ser Ala Gly Arg Met Tyr Gly Ser Arg Glu Glu Lys Gly Asn Glu
 580 585 590

Pro Thr Lys Lys Lys Val Glu Arg Ala Leu Asp Gly Gln Ile Thr Glu
 245 250 255
 Ile Val Tyr Lys Gly Ala His Asn His Pro Lys Pro Gln Ser Thr Arg
 260 265 270
 Arg Ser Ser Ser Ser Thr Ala Ser Ser Ala Ser Thr Leu Ala Ala Gln
 275 280 285
 Ser Tyr Asn Ala Pro Ala Ser Asp Val Pro Asp Gln Ser Tyr Trp Ser
 290 295 300
 Asn Gly Asn Gly Gln Met Asp Ser Val Ala Thr Pro Glu Asn Ser Ser
 305 310 315 320
 Ile Ser Val Gly Asp Asp Glu Phe Glu Gln Ser Ser Gln Lys Arg Glu
 325 330 335
 Ser Gly Gly Asp Glu Phe Asp Glu Asp Glu Pro Asp Ala Lys Arg Trp
 340 345 350
 Lys Val Glu Asn Glu Ser Glu Gly Val Ser Ala Gln Gly Ser Arg Thr
 355 360 365
 Val Arg Glu Pro Arg Val Val Val Gln Thr Thr Ser Asp Ile Asp Ile
 370 375 380
 Leu Asp Asp Gly Tyr Arg Trp Arg Lys Tyr Gly Gln Lys Val Val Lys
 385 390 395 400
 Gly Asn Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr Ser Gln Gly Cys
 405 410 415
 Pro Val Arg Lys His Val Glu Arg Ala Ser His Asp Ile Arg Ser Val
 420 425 430
 Ile Thr Thr Tyr Glu Gly Lys His Asn His Asp Val Pro Ala Ala Arg
 435 440 445
 Gly Ser Gly Ser His Gly Leu Asn Arg Gly Ala Asn Pro Asn Asn Asn
 450 455 460
 Ala Ala Met Ala Met Ala Ile Arg Pro Ser Thr Met Ser Leu Gln Ser
 465 470 475 480
 Asn Tyr Pro Ile Pro Ile Pro Ser Thr Arg Pro Met Gln Gln Gly Glu
 485 490 495
 Gly Gln Ala Pro Tyr Glu Met Leu Gln Gly Ser Gly Gly Phe Gly Tyr
 500 505 510
 Ser Gly Phe Gly Asn Pro Met Asn Ala Tyr Ala Asn Gln Ile Gln Asp
 515 520 525
 Asn Ala Phe Ser Arg Ala Lys Glu Glu Pro Arg Asp Asp Leu Phe Leu
 530 535 540
 Asp Thr Leu Leu Ala
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WO 01/49840

PCT/US00/35310

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 <213> Artificial Sequence
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